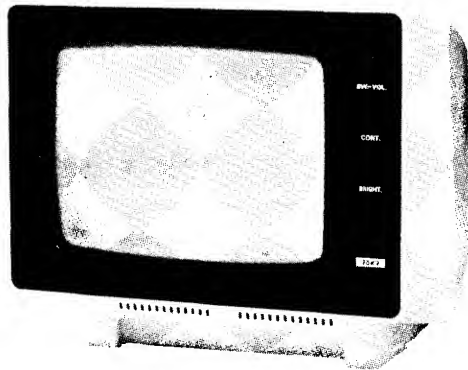


OPERATION MANUAL FOR DISPLAY MONITOR



MODEL KH-90

MODEL KH-90A

Thank you very much for your purchasing TOEI Monitor. Please read this operation manual for your correct operation before switch-on.

- * I.C. & Transisterized and reliable design can make free Toei Monitors from troubles, and a stabilization of the circuit contributes to make more stable and clear Video-Screen even in the case that variation of power supply-voltage and ambient temperature would occur.
- * Thoughtful consideration is also given on making easy operation on Model KH-90 Series.
Vertical IO gradient on front panel keeps operators easy view on the screen and positions of knobs are also considered for easy operation.
KH-90 Series are employing Green Display CRT which can protect operators' eyes from fatigue of long time-operation, and from reflection of outside light.
The design is put a importance on users standpoint of operation.
- * Video input connectors are set up in the rear panel for further giving play to motive power.
Video output connectors make KH-90 Monitors possible for bridge-operation which make users possible to see same screen of several Monitors simultaneously.
- * As main circuit is contained in a piece of P.C.Board, and is connected with connectors, maintenance and technical checking are easy to be done.

Picture Tube :

9", 90°, P31, Non-Glare

Power Supply :

AC100, 117, 220, or 240V, 32W

Input Impedance :

High Impedance or 75 Ohm
changeable by switch

Input Signal :

Composite-Video Signal 1.0~2.0Vp-p

Scanning Frequency :

Horizontal 15.75KHz \pm 500Hz
Vertical 50/60Hz

Video Bandwidth :

20MHz and more (+1db -3db)

Numbers of Characters :

2,000 Characters (80×25 lines)

Deflection Tolerance :

Horizontal 7% Vertical 5%

Size of Display :

about 150mm(W) × 108mm(H)

Audio-Input :

0.1Vp-p (KH-90A only)

Audio-output :

0.5W (KH-90A only)

Ambient Condition :

-10°C~+45°C (Temperature)
20%~80% (Humidity)

Connectors :

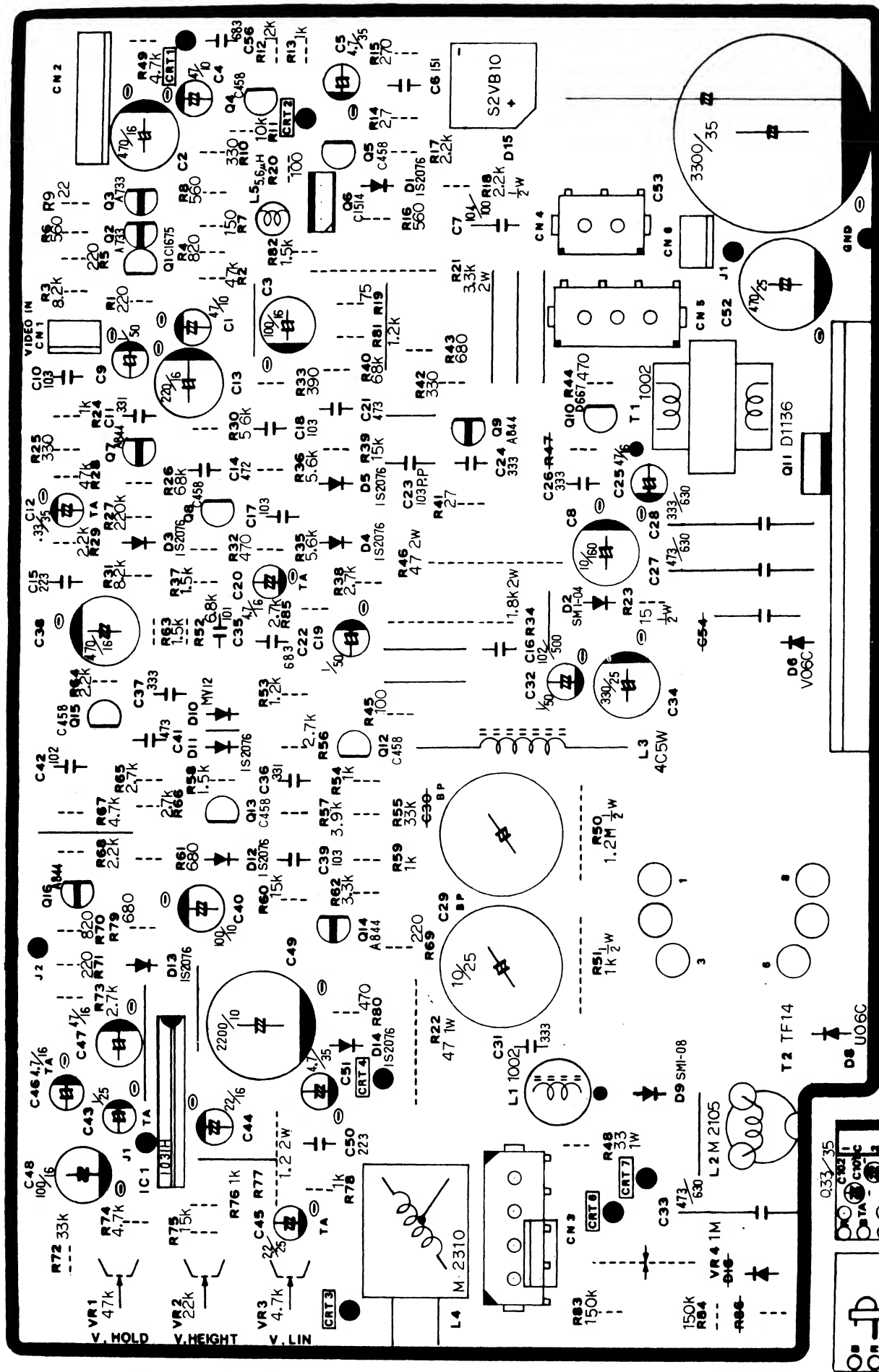
Pinjack × 4 pcs.

Size External :

266mm(W) × 231mm(H) × 275mm(D)

Weight :

4.5Kg net



MADE IN JAPAN M-7269

MODEL KH-90(A)

NOTES

- (1) Please use specified components when to change of ★ marked components in the circuit diagram for keep to safety.
- (2) Therefore basic circuit diagram is showing, some different may be observed between the circuit diagram and actual wiring due to functional increasing.
- (3) Resistor values are in ohms.
- (4) Rating of Resistor are in 1/4 watt.
- (5) Capacitor values are in micro farads.
- (6) Working voltage of Capacitors are 50volts.

MODEL KH-90(A)

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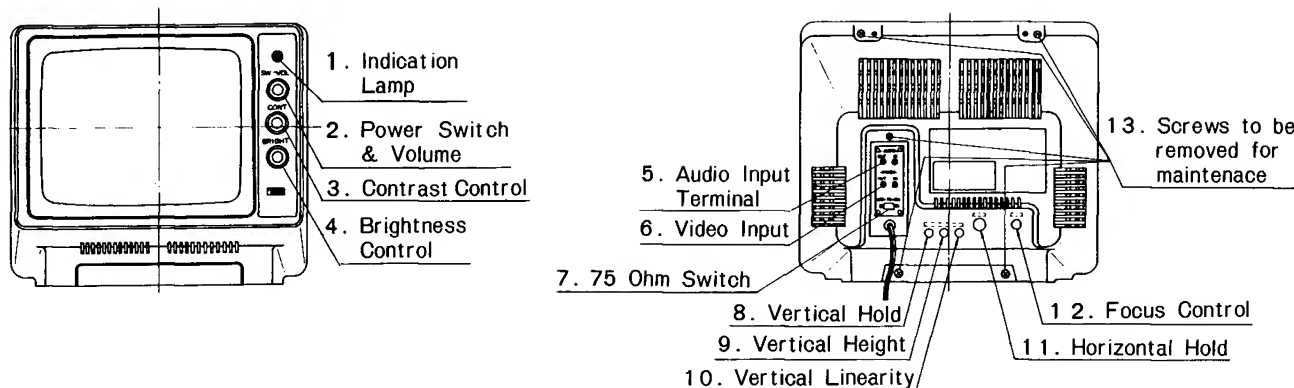
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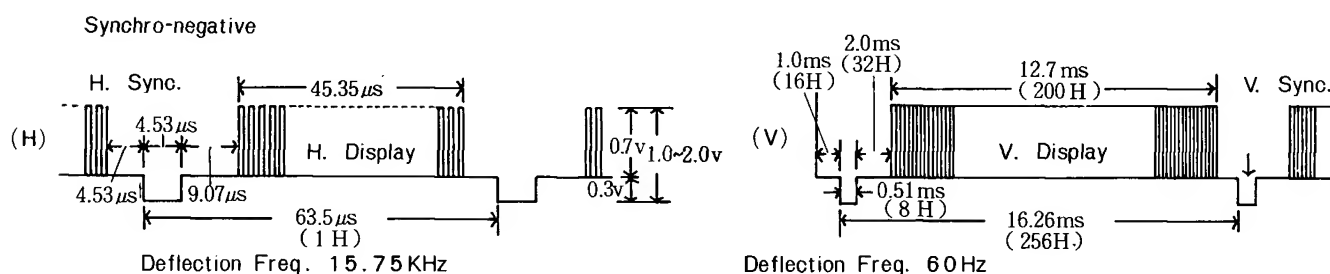
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1. **Indication Lamp :**
Green Lamp indicates switch-on when a switch is turn on clockwise.
2. **Power Supply Switch :**
(1) For Model KH-90 : Switch-on when a switch is turn on clockwise and Switch-off when a switch is turn on counter-clockwise.
(2) For Model KH-90A : Switch-on of Power Supply and Volume when a swtch is turn on clockwise and sound-volume become further great by turning the knob on clockwise.
3. **Contrast Control :**
When the picture contrast is too weak or too strong, adjust "CONTRAST" Control.
4. **Brightness Control :**
Brightness becomes light when the Control-Knob is turn on clockwise, and becomes dark when the Control-Knob is turn on counter-clockwise.
5. **Audio Input Terminal.:**
This is Terminal for connecting Audio-Signal, and the left Terminal is for Bridge-Connection.
6. **Video Input Terminal :**
This is Terminal for connecting Video Signal, and the left Termination is for Bridge-Connection.
7. **75 Ohm Termination Control Switch :**
Switch-on when Video Output Impedance of epuipments connected is 75 Ohm and lower, and Switch-off when the Video Output Impedance is higher than 75 Ohm.
8. **Vertical Hold :**
When the picture is overlapped or rolling up or dowh, adjust V. HOLD Control until the picture becomes stable with minus screw driver.
9. **Vertical Height Control (adjusted) :**
Turn on clockwise when vertical amplitude is small and turn on counter-clockwise when vertical amplitude is great.
10. **Vertical Linearity (adjusted) :**
When the pattern is distorted at the top or bottom portion, adjust V. LINEAR Control.
11. **Horizontal Hold Control :**
When the picture is off set, or stpibes and bars appear, adjust H. HOLD Control.
12. **Focus Contorol :**
When the picture is blurred or out of Focus, adjust FOCUS Control.
13. **Maintenance and Technical Checking :**
Rear-cover can be removed when 5 pcs. of screw and nuts are removed.

Recommended Signal and Timing Chart



Attention :

- * Please pay your attention when another signal excepting for recommended signal is input, there are cases that normal Video Display does not appear.
- * There occurs case that when same characters would be displayed for long hours of time, burned marks would be left on the screen of the CRT.
Make Contrast Control and/or Brightness down as lower as possible.